Bellingen Shire Council

Kudzu:

Pueraria lobata

Identification and Control

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Introduction

Kudzu, *Pueraria lobata*, also known in the U.S.A. as "the plant that ate the south" (due it's extreme rates of growth under tropical and sub tropical conditions,) is an invasive perennial vine. It is a native of north Asia, including Japan and was introduced into Australia as an ornamental plant and pasture legume.

Kudzu has become a major environmental weed in parts of the New South Wales North Coast and has the potential to become a significant threat to natural ecosystems in other areas. In NSW significant but controllable infestations occur in the north and mid north coast regions. In South East Queensland infestations have been found at Springbrook, 20 kilometres west of the Gold Coast.

Description

A member of the Fabaceae (pea) family, Kudzu is a perennial, semi-woody, trailing or climbing vine, with alternate and trifolate (groups of three) lobed leaves 7-25cm long. The leaflets have a hairy margin. A number of vines will emerge from the one point on the plants crown. Kudzu will take root where a node comes into contact with the earth.

Kudzu also produces a large fleshy edible rhizome or tuber which can grow to 1.8 metres in length and 15cm in diameter. Being frost sensitive, the tubers enable kudzu to over-winter in frost-prone areas and rapidly regrow each spring.

In late summer plants in full sun produces purple pea-like, grape-scented flowers in elongated clusters (10-25cm long). This pea-like flower has a basal yellow spot with wings & keel purple. Following flowering, clusters of elongated hairy bean-like pods (5-9cm long) develop, containing a few lucerne-sized seeds. Seed viability in Australia is yet to be established, however in American studies kudzu seed has been shown to have low viability.

In Asia and the USA kudzu is reported to grow in a wide range of soils. Current infestations in Australia are largely in riparian zones originally supporting subtropical and dry rainforests.

Distribution

Kudzu was introduced to the north Coast as a leguminous pasture plant and for erosion control. The plant also has qualities useful in non-western medicine as a demuculent, or medication given to soothe irritated mucous membranes, and may have been promoted as a permaculture plant.

Infestations of kudzu are currently along the north coast of New South Wales, north of Taree
Most of these infestations are on private property or roadsides. Significant kudzu infestations occur on rural land in and near Murwillumbah, Byron, Ballina, Coffs Harbour and Bellingen Shire areas. In Bellingen Shire there are at least 12 infestations, mainly in the Kalang Valley, Hydes Creek area and along the Pacific Highway.

Why is kudzu a Problem

Kudzu is listed among the World Worst Invasive Alien Species (among only 32 other terrestrial plants) (See http://www.issg.org/database/welcome/).

Between 1876 to 1943, kudzu was enthusiastically promoted in the southern United States for pasture and erosion control. In the 1950s and 60s the plant began to become a weed problem and by the 1970's it was finally declared a weed. Today at least 2.8 million hectares are infested by kudzu.It is estimated that the plant causes loses of $ US 500 million per year in land productivity and control costs.

The rampant growth of kudzu in the USA has restricted human movement, smothered fences, buildings, powerlines, rail lines and other infrastructure. Kudzu is capable of growing up 30cm a day, 20m per year and can climb trees to a height of 30m.

The North Coast Weeds Advisory Committee undertook a Weed Risk Assessment process in 2002 that saw kudzu rate as the second most invasive and destructive weed on the NSW North Coast.

Northern NSW is still in a position to successfully control the existing infestations due to their limited nature. To do this, coordinated control must begin now while the opportunity still exists

Environmental Weed

Kudzu is a serious potential environmental weed, which is recognised and listed by numerous bush regeneration, Council and NPWS groups. It is a high priority plant for control and must not be planted.

There is serious concern amongst weed managers on the north coast regarding the potential of kudzu. Kudzu has the ability to out compete and eliminate native plant species and destroy the diversity of native plant and animal communities. Its extremely rapid growth rate and habit of growing over objects threatens natural areas by smothering native vegetation.

Spread

Kudzu actively spreads along watercourses by seed or vegetatively. The main method of spread from area to area is by people planting it for a range of reasons.

Declaration

To prevent the further spread of this potentially serious weed in NSW it is proposed that it be declared a W2 noxious weed. A W2 noxious weed must be fully and continuously suppressed and destroyed. The responsibility for control of noxious weeds on private lands rests with the occupier of the land. Failure to control noxious weeds can result in a notice being served; a fine and/ or your local Council may enter your land and eradicate plants; charging costs to the landholder.

Declaration of the plant will enable implementation of a coordinated control program. Declaration also raises the profile of the weed species gaining greater cooperation from Local Government, State agencies, community groups and landowners to undertake control.

Control

The first step in a control program is to assess the weed problem and situation. Consider revegetation with native species, control of other weed species present such as privet, camphor laurel, other vine species, and plan follow-up maintenance and treatment of the infestation.

Manual Control

Manual removal of isolated small plants can be attempted by hand pulling or digging the tubers. This method is practical for a small number of plants.

Pigs have also been used as an effective tool for controlling kudzu as they actively dig out and eat the long tubers.

Continual grazing with cattle may weaken the plants enough to kill them. This method should be combined with other control techniques.

Herbicide Control

Herbicide control can be achieved using cut stump or basal bark techniques or foliar application. The method used will depend on the site situation e.g open area or amongst other desired vegetation, tuber size, and access. The large tubers necessitate repeat control over at least two years.

Trials at Bellingen have formed the basis for an approved Minor Use permit from the Australian Pesticides and Veterinary Medicines Authority. Permit No. 7278 (In force from 10 February 2004 to 30 June 2009) and is available from their website www.apvma.gov.au

Further Information

For further information contact your local council Weeds Officer or your nearest office of NSW Agriculture.

Acknowledgements

The author acknowledges the following sources:

Flora of NSW Vol 2, p 586 (revised Edition 2002) – Gwen J Harden. UNSW Press

Kudzu in Alabama, History Uses & Control, J Everest, J Miller, D Ball, M Patterson – www.aces.edu/department/ipm/kudzu.htm

100 of the World's Worst Invasive Species – Invasive Species Specialist Group 2001 http://www.issg.org/database/welcome/

Gales Encyclopedia of Alternative Medicine http://www.findarticles.com/cf_dls/g2603/0004/2603000478/p2/article.jhtml?term=kudzu